

## **Fatal dengue shock syndrome in a travel returnee with primary dengue infection**

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**Background:** Dengue is the most prevalent arbovirus infection worldwide with an estimated 400 million infections occurring each year. It is transmitted by *Aedes* species. Symptoms range from mild febrile infections to life-threatening dengue haemorrhagic fever and dengue shock syndrome. Secondary infections increase the risk of severe courses. Since 2000, three dengue-related deaths have been reported in Germany.

**Case Report:** A 47-year-old male patient presented to the emergency department with fever and diarrhoea right after a 16-day trip to Thailand. The only known medical condition was rheumatoid arthritis, which has not been treated for 6 months prior to admission. The physical examination revealed a truncal exanthema. He was admitted to the intensive care unit due to severe hypotension. Dengue virus serology revealed positive IgM and negative IgG; dengue virus RNA could be detected in blood samples. Therefore, a primary infection was assumed. Shortly after admission, the patient required mechanical ventilation due to respiratory insufficiency. Despite intensive volume and catecholamine therapy, the patient died of refractory septic shock within 48 hours after the initial presentation.

**Conclusion:** We present the case of a returning traveller with fatal dengue shock syndrome. The aim of this report is to illustrate the clinical impact of this highly frequent disease in travellers. It highlights that primary as well as secondary dengue infections can lead to severe courses and death. Therefore, vaccination as primary prevention needs to be evaluated. Close monitoring and prompt medical treatment should also be applied in case of primary infections.